United States Wash.

Coniferae Prof Piper. Apr. 9. 1899.

No. 1001. Mar. 5, 1899.

Juniperus scopulorum

Shrubs or small trees, (18 in. thro' & 25 ft. high)
growing along high water mark on Columbia
Polygamous - diviceous: berries hang on all winter.
and seem to mature early the second year.
Along banks of Columbia near Koehler's place, quite
large trees. March 28, 1899.
March 19, shrub 5 ft. high at Dando's place, along
Wenatchee River.
April 19. Specimens, same as Mar. 5, at Steamboat
landing below Wenatchee.

No. 1002. March 6, 1899.
Alnus tenuifolia
" incana virescens Bot. of Calif.

Small tree 3 inches in diameter, 15 ft. high- along streams. Aments forming year previous, and developing before the leaves; staminate 2-3 in long, slender, drooping.

July 30, 1899. Fruiting specimens. Jubtoe-chin.

No. 1003. March 16, 1899.

Betula occidentalis. Bot of Calif.

Black birch. Tree 6-8 inches in diameter, common along streams. Catkins forming the previous season and expanding in spring.

April 9, 1899. Specimens with catkins developed.

No. 1004. March 19, 1899.

Thuja plicata — Bot of Calif.

Thuja gigantea

Only leaf specimen from a small tree, at Dando's place, on Wenatchee River.

No. 1007. March 21, 1899.
Peucedanum canbyi
Flo. white, stamens dark. Bulbous root edible.
Called by Indians "Cosuse". Indian potato.
Common in Wenatchee Flat and along
canyons, 3-8 inches high.

Mar. 28, 1899. along rocky banks of Columbia
near Kohler's place; large specimens.

Apr. 28, 1899. Wenatchee Flat, in fruit
P. evittatum Prof. Piper. July 9, 1899.

No. 1005. Mar. 26, 1899.
Prunus emarginata mollis. Bot of Calif.
Shrub or small tree in canyons. Fruit very
bitter.

May 28, 1899. Specimens in bloom, from
Mts. north of Gulch No. 1. Wenatchee.

No. 1006. Mar. 26, 1899.

Ranunculus glaberrimus. Bot of Calif.

Common on side hills early in Spring.

1008. April 2, 1899.

Claytonia caroliniannm sessilifolia. Bot & Ed.:
Bulbous root; on hills, appearing soon after
snow is gone. "Spring beauty".

No. 1009. March 31, 1899.

Fritillaria pudica Bot. of Calif. 1

Also March 28, at banks of Columbia near Koehler's place above Wenatchee.

The specimens found along the Columbia seem to have narrower and less succulent leaves than those in foothills, west of Wenatchee, and do not have the numerous scale like bublets at the root.

April 30, 1899. Large specimens with thicker leaves and 2 or 3 flowers, near head of Gulch No. 2.

No. 1010. March 31, 1899.

Mertensia oblongifolia Bot. of Calif.

"Blue bells" 4–6 in. high from somewhat thickened roots; glabrous. Fls. bright blue, drooping. Common in Wenatchee Flat and foothills, also in Kittitas Valley.

April 17, 1899. Fruiting specimens. Styles long, persistent after corolla falls off.

No. 1011. April 2, 1899.

Douglasia nivalis Bot. of Calif.

In caespitose mats on rocky hills west of Wenatchee. Fls purple, very pretty, but fading and turning black in drying.

No. 1012. April 3, 1899.

Antennaria dimorpha Bot. of Cal.

Low, caespitose. Common in Wenatchee Flat and foothills

April 17, 1899. Fruiting specimens. Heads elongating.

No. 1013. April 9, 1899.

Ribes cereum Bot. of Cal.

Squaw currant, sweet currant.

Spreading bush 2-3 ft. high, on dry side hills. Common.

No. 1014. April 9, 1899.
Salix cordata. Prof Piper, July 9, 1899.

Growing in clumps along stream at
Dutch John's place, below Wenatchee.
15 feet high. Both staminate and
pistillate aments appearing before the
leaves, on short peduncles with 2-4
bract like leaves: stamens 2, scales black.

April 11, 1899. Apparently same along small
ditch in north side of Philip Miller's place.
See No. 1020.

No. 1015. April 5, 1899.
Claytonia chamissonis
Montia chamissonis Syn. Fl. N. A.

In dense mats at spring, along Columbia
below Wenatchee
Montia fontana Prof. Piper. July 9, 1899.
Bot. of Calif.

No. 1016. April 5, 1899.

Cerastium nutans Bot. of Calif

At spring along Columbia, below Wenatchee.

No. 1017. April 5, 1899.
Tellina tenella Bot. of Calif.

Common on Wenatchee Flat and foothills.

April 19, 1899. Larger specimens.

No. 1018. April 9, 1899.
Dodecatheon media frigidum. Bot. of Col.

Side hill at Blair's place, below Wenatchee.

April 17, 1899. Hill on Section 5 west of Wenatchee.

April 23, 1899. A large form with thicker leaves. among rocks on damp hillsides, near Rock Island R. R. Bridge. But near by were some as above. Fruiting specimens of same locality.

No. 1019. April 9, 1899.
Cheiranthus menziesii Bot. of Calif.
Parrya menziesii Syn. Fl. N. A.

Flowers blue in racemes, on scape like, bracteate stems from a thick root. On rocky ground below Stemilt Creek.

May 21, 1899.
At same place fruiting specimens.
Pods 1-2 inches long, flat, nearly ½ in wide, tapering to both ends, lanceolate.
Many pods and seeds abortive.
Seeds flat, not winged.
Cotyledons accumbent.

No. 1020. April 11, 1899.
Salix cordata

Small trees in clumps, 15 ft. high, along small ditch in Philip Miller's field, north side,

Apparently same as No. 1014.

No. 1021. April 13, 1899.

Perucedanum simplex Bot. of Calif..

Slightly caulescent, 1 ft. high: root long and cylindrical, not tuberous. Leaves mostly biternate, but sometimes with 2 or 5 leaflets, 2-4 inches long, linear lanceolate; inflated sheaths; the two lowest leaves reduced to mere sheaths.

Stem and leaves minutely pubescent. Umbel of 5- or more rays; lengthening after blossoming; without involucres. Involucels of a few awl-shaped bracts. Flowers yellow, many with abortive ovaries. Fertile with or without minute calyx lobes

Common in Wenatchee Flat and hillsides, also at Ellensburg

May 19, 1899. Fruiting.

No. 1022. April 16, 1899.

Acer glabrum Bot. of Calif.

Shrubs or small trees growing in clumps along streams. Polygamo - dioecious

The fertile flowers with sepals and petals shorter and more obtuse than in the staminate flowers. Branches dark brown. Flowers appearing about same time as leaves.

July 30, 1899. Fruiting specimens.

No. 1023. April 17, 1899.
Astragalus inflexus. Bot. of Calif.

May 25, 1899. Fruiting specimens
Pods very woolly, larger than A.
allanaris. Collected at Ellensburg.
Wenatchee Flat at W. E. Stevens' place.

No. 1024. April 18, 1899.
Pectocarya penicillata Bot. of Calif.

Low caespitose plants ½-1 inch high, in matted tufts on river bottom, near Wenatchee. Hispid with whitish bristly hairs. Leaves oblanceolate. Corolla white with small yellowish crests in throat.

April 19, 1899.
Plants 1½ inches high, growing in shelter of rocks, spreading branches.

No. 1025. April 18, 1899.
Polemonium micranthum. Bot. of Calif.
Common in sheltered places on
Wenatchee Flat.

No. 1026. April 18, 1899.
Gilia aristella Syn. Fl. N. A. Sup. 408.

Slender branching annual 2-4 inches high with bluish flowers.
Common in Wenatchee Flat.
Seems to be Gilia gracilis, or Collomia gracilis of Botany of California.

No. 1027. April 18, 1899.
Collinsia parviflora Bot. of Calif.

Low 2-4 inches high, purple flowers.

May 2, 1899. Gulch west of Wenatchee, on side hill. Branching, 6 inches high.

No. 1028. April 19, 1899.
Amelanchier alnifolia Bot. of Calif.
Service-berry, June-berry.

May 28, 1899. Shrub 2-3 ft. high on
Mountains north of Gulch No. 1.
Wenatchee. Common.

Specimen of April 19 is A. pumilla or
A. utahensis. In crevices of rocks, near
Wenatchee — does not mature fruit in
those places

Specimen of May 28. A. virgata, new
species.
See Prof. Pipers letters of Dec. 15-1899 +
July 10, 1899.

No. 1029. April 20, 1899.
Balsamorhiza sagittata Bot. of Calif.

common in Wenatchee Flat and foothills
also at Ellensburg.

No. 1030. April 20, 1899.

Plectritis macrocera — Bot. of Calif.

Valerianella macrocera — Syn. Fl. N. A.

Flowers white or pinkish. Corolla 1/8 inch long, spur as long and larger than tube, lip scarcely bilabiate. In sheltered places among rocks &c. 2-8 in. high.

May 14, 1899. Specimens fruiting showing the expanded calyx lobes.

No. 1031. April 23, 1899.
Arabis arcuata subvillosa Syn. Fl. N. W.

Two feet high, slender, sometimes more than one stem from root, biennial, radical leaves 1-2 inches long, on slender petioles, pubescent.
Cauline leaves clasping, upper leaves and stems glabrate except a few scattered hairs. Petals blue, sepals purplish.
Pods arcuate, slender; seeds in 2 rows.
Among rocks near mouth of Stemilt Creek.
May 17, 1899. Large specimens on border of cultivated land at O. G. Francis.
Radical leaves ovate, ½-1 inch long on petioles, toothed.
Pods flat, 4 inches long, ascending, spreading. 1/8 inch wide.

No. 1032. April 23, 1899.
Lupinus

stems rather stout in clumps, leaflets lanceolate - 9 or 10 - on petioles, becoming shorter above, silky canescent; bracts linear-lanceolate, early deciduous.
Calyx lip under the banner not toothed but only retuse; lateral sepals very small; lip under the keel obtuse. Corolla light blue, banner spreading, considerable white in center with dark flecks.
4 ovules. Keel ciliolate. Banner not silky.
among rocks near mouth of Stemilt Creek.
Near to No. 1033. Probably same.

No. 1033. April 23, 1899.

Lupinus burkei Bot. of Calif.

Stems more slender than No. 1032, and in denser clumps with more radical leaves, and leaflets more numerous, 8–13.

Raceme shorter and more dense.

Flowers darker blue or purple.

Calyx lip under banner two toothed.

Lateral sepals, bracts, linear.

Lip under keel acute. White in center of banner flecked with dark purple spots.

Ovules 6 or 7. Among rocks near Blair's.

Among rocks at mouth of Stemilt Creek, and also on side hill near Dutch John's. These may be different, as in the first the keel is ciliate and in the second is not. And the inflorescence is more open in the latter, resembling No. 1032.

Apr. May 28, 1899. Probably same on Wenatchee flat, near foothills. Ovules 8. Leaflets 10–11. Keel not ciliate. Raceme open. Stipules setaceous.

May 2, 1899. Same with raceme open, 6 in. or more long. Leaflets 7–14. Sandy hillside, west of Wenatchee.

No. 1034. April 23, 1899.

Mertensia sibirica

Growing in tufts from a perennial root
Radical leaves 2-4 in long on petioles of
same length, oblong-lanceolate, apex obtuse.
Cauline leaves sessile, 1-3 in. long, 1/3 - 3/4 in broad.
Stem and leaves glabrate or glaucous.
Flowers in close panicle at top of simple stem.
Calyx lobes oblong, ciliate. Corolla bright
blue, with long tube. Style slender, barely
exserted. Stamens on thick wide filaments
Cauline leaves slightly ciliolate on margins.
Veins obscure

Dry side hill near Dutch John's.

No. 1035. April 23, 1899.

Peucedanum macrocarpum P. Piper, July 9, '99.

Many stems 6-12 in. high from a cylindrical root; seems to blossom about 3d year.

Leaves on 2 year old plant pinately decompound, the final divisions 1/4 in. long, oblong acuminate. Leaves on blossoming plant not fully developed. Whole plant glandular pubescent, pale green.

Umbel of numerous (14) rays, 1 in. long, elongating in fruit; the inner rays having abortive flowers, without involucres. Umbellets with involucels, one sided of several bracts grown together.

No calyx-lobes except a sort of thick protuberence.

Petals cream color or pink

Styles long and slender,

Stylopodium depressed.

On alkali ground below mouth of Stemilt Creek.

See No. 1118.

No. 1036. April 23, 1899.

Phlox speciosa Bot. of Calif.

a foot high in clumps with suffrutescent base. Leaves and inflorescense glandular-pubiscent. Leaves linear-lanceolate, 1/2 - 1 1/2 inches long, fascicled on nonten (sterile?) shoots. Stems slender, branching; bearing cymose clusters of white or bluish flowers at summits.

Lobes of corolla obcordate with deep sinus. Style short scarcely reaching the anthers. Calyx lobes linear-lanceolate, without angles; tube of corolla twice length of calyx, or only a little exceeding.

Rocks and side hills near R. R. Bridge at Rock Island

See No. 1069.

Phlox whitedii E. Nelson. Prof Piper Feb. 22, 1900.

New species.

No. 1037. April 23, 1899.

Phlox longifolia Bot. of Calif.

Many stems from suffrutescent base, usually 6-10 in. high, but in sheltered places a foot or more. Leaves linear-lanceolate often fascicled. Flowers not so numerous as in No. 1036. Lobes of corolla entire. Style very long exserted.

Common along Columbia and at Ellensburg. But few flowers open at once, but keeps flowering till late in summer.

Also May 19, 1899. Wenatchee Flat.

May 21, 1899. On dampish side hill near Malaga, in edge of thicket. Answers description of P. linearifolia.

May 25, 1899. Wenatchee Flat. W. E. Stevens. Border of cultivated land.

P. linearifolia Prof. Piper, July 10, 1899.

No. 1038. April 23, 1899.

Microseris tropimoides Bot of Calif.

a tuft of radical leaves 3-5 inches long, with one or several simple, scape-like stems, having a single head of yellow flowers, 1-1½ inches high.

Stems 6 inches or more high, very slightly puberulent. Generally on rocky or sandy soil.

Common in Wenatchee Flat.

April 28, 1899. Scape with or without a few bract-like leaves.

Flowers seem to open only in early part of day, closing about noon.

No. 1039. April 23, 1899.
Balsamorhiza deltoidea Bot. of Calif.
Much resembling B. sagittata, but the leaves are less canescent and involucres with no matted canescence. Base of leaf-blade but little auricled
Does not appear so low down in the Flat as the former.
Along hillsides of Coloekem Creek.

No. 1040. April 23, 1899.
Saxifraga occidentalis Prof. Piper, Feb. 22, 1900.

Scapes 6-10 inches high from a tuft of radical leaves.
Leaves ovate, 1 inch long, entire or with a few glandular teeth on margined petioles 1 inch long. Inflorence a bracteel irregular panicle, glandular pubescence. Petals small, dull white; stamens ten.
Flower ⅛ inch across.
Calyx tube coherent with lower part of ovaries, lobes reflexed.
Growing on rather dry side hill near Rock Island R.R. Bridge, and appears to be a rather small form of S. integrifolia.
Bot. of Calif.

May 2, 1899. On side hill west of Wenatchee.
Leaves on margined petioles all glandular toothed; calyx free from ovary, reflexed.
Filaments enlarged upward.
Petals white, ovate on short claws, two-spotted.
Panicle spreading bracteate.

No. 1041. April 23, 1899.
Astragalus Goodiana Piper, July 9, 1899.

a span high or more; several tough, slender, erect or ascending stems from suffrutescent base and tough root. Leaves 2/3 as long as stems; leaflets 15 or more pairs- linear 1/2 inch long. Whole plant pubescent giving it a light grayish green color.
Calyx beset with short black hairs.
Teeth lanceolate- linear as long as tube
Flowers in a raceme 1 1/2 inch long with pedicels 1/6 inch long; upper 3 or 4 inches of peduncle naked.
Corolla creamy white 1/2 inch long, rather narrow.
Ovary on stipe- one-celled
Dry ground along Colockem Creek.

No. 1042. April 23, 1899.
Astragalus

In clumps from tough root, decumbent,
1 ft. long.
Leaflets ovate 1/2 inch long, or but 5–9 pairs.
Peduncles 2-3 inches long, bearing short
bracteate racemes of cream colored flowers.
Leaves and stems pubescent.
Calyx beset with very short black hairs.
Teeth narrow shorter than tube.
Corolla narrow.
Keel boat shaped, purple at tip.
Ovary pubescent on stipe, one-celled.

Plant somewhat similar to No. 1041,
but larger, coarser, and darker green in
color
On dry side hills along Colockem

No. 1043. April 23, 1899.

Arabis holbellii

Bot. of Calif.
Syn. Fl. N. A.

One or several stems 1-2½ ft high from strong biennial or perennial root.
Whole plant roughish pubescent, lower and radical leaves 1-2 inches long, somewhat toothed or nearly entire, oblanceolate, on petioles of some length.
Cauline leaves 1-2 inches long, sessile, auricled but not clasping.
Stems erect, sometimes branching above.
Peduncles ½ inches long, recurved.
Petals white.
Ovary pubescent.
Stigma sessile

Along R.R. track at Rock Island, also in rocky places in Wenatchee Flat.

No. 1044. April 26, 1899.

Salix lasiandra Bot. of Calif.

Aments on short leafy branchlets, appearing with leaves.

Leaves ovate-lanceolate, glabrous on both sides, bright green above, paler beneath, finely serrate, young leaves somewhat pubescent.

Staminate aments an inch or two long.

Bracts yellowish, obovate, serrate.

Stamens 5 or 6.

Stipules semi circular, serrate.

Did not find pistillate aments.

Along Setter's Ditch at Philip Miller's.

No. 1045. April 28, 1899.

Collomia gracilis — Bot. of Calif.
Gilia gracilis — Coulter Rocky Mt. Bot.

A few inches high, stems simple or branching.
Leaves simple; upper, alternate, linear, 1 in long, lower, opposite and wider.
Flowers in a sort of capitate cluster.
Corolla small, bluish; tube somewhat longer than the calyx.
Stamens unequally inserted.
Inflorescence some what viscid-pubescent.

Proof. Paper. July 9, 1899.

Gilia linearis

No. 1046. April 28, 1899.
Eritrichium tenellum Bot of Calif.

a few inches high, from a clump of rosulate leaves; seems to be biennial.
Stems branching; blossoming first when only an inch or so high.
Radical leaves an inch or less high, ovate-lanceolate or spatulate.
Cauline leaves ½ inch long, ovate, sessile
Spikes nearly leafless.
Whole plant bristly canescent.
Calyx 5-parted, as long as corolla tube
Corolla white, small, with yellow crests in throat.
Nutlets rugose on back, somewhat cruciform

Dry ground in Wenatchee Flat.

No. 1047. April 28, 1899.
Echinospermum floribundum Bot. of Calif.
stickseed Syn. Fl. N. A.

1-2 ft. high from perennial root.
Flowers white
Corolla salver-form, with crests in throat
Seeds a nuisance

May 19, 1899. Fruiting specimens.
Nutlets flat on back, with a border of flattish barbed teeth. A nuisance when ripe.
Echinospermum ciliatum Piper, July 9, 1899.

No. 1048. April 28, 1899.
Echinospermum redowskii Bot. of Calif.

Usually a small plant 4 in. to 1 ft. high,
at first a simple erect stem, blossoming
early, but later branching and continuing
to bloom while early fruit is ripening.
Growing among rocks and in waste places.
Leaves entire, linear-oblanceolate to oblong;
the lower often with margined petioles,
becoming bracts to the spike.
Whole plant rough hirsute.
Corolla small, white, shorter than calyx
lobes- crests nearly closing throat.
Calyx persistent, spreading in fruit.
Nutlets with a single row of rather long
barbed bristles around border.

May 24, 1899. Wenatchee Flat. 2-10 inches high.

No. 1049. Apr. 28, 1899.

Brodiaea douglasii Bot of Calif.

(Blue cammas)

Small bulb 1/2 – 1 inch through, eaten by the Indians. 1 – 2 ft high from scaly bulb, 2 – channeled.

Leaves near base 8 – 18 inches long, 1/4 – 1/2 in. wide, scarious bracts at base of umbel, bearing 5 – 15 flowers.

Perianth 1/2 – 3/4 inch long, monosepalous, with campanulate tube and ovate lobes, blue or nearly white with darker midribs, pedicels 1/2 – 1 inch long.

Anthers versatile, introrse, borne on short filaments on throat of corolla.

Ovary 3-lobed, tapering to summit with 3 stigmas.

Seeds numerous on parietal placentas.

Whole plant smooth and glabrous.

Stipe as long and as thick as the ovary.

Common on Wenatchee Flat and sidehills.

No. 1050. Apr. 29, 1899.

stems about a foot high – naked scapes from a strong scented, many headed root.
Leaves decompound pinnate, the small divisions 1/6 inch long, lanceolate, all radical, some with slender, and others with short inflated petioles.
Whole plant glabrous.
Umbel of 7–10 rays an inch or so long, elongating in fruit; no involucres, involucels of several awl shaped bracts.
Flowers yellow.
Calyx teeth obsolete.
Probably Pencedanum millifolium. B. & b.
" grayi Plants of N. Idaho.

On rocky bar of Columbia, near Wenatchee
a few leaves low down on stems

An ill smelling plant, said to be poisonous
and called stagger-weed.

No. 1051. Apr. 30, 1899.
Smilacina

a foot or more high from a stout creeping rootstock.
Leaves on stronger plants 2-5 inches long and 2 inches wide, ovate, clasping.
Stems erect or ascending, pubescent.
Panicle on short peduncle, ½ in. wide and ¾ in. long, densely flowered, flatish.
Flowers very small, cream colored.
The plant answers the description of S. amplexicaulis, except the panicle.
The flowers seem fully developed and open and it does not appear that the panicle would develope to the size given in the Bot. of Calif.

Dampish hillsides in Gulch No. 2. near Wenatchee.

No. 105-2. April 30, 1899.

Smilacina sessilifolia — Bot. of Calif.

Vagnera " — Plants of N. Idaho.

Stems 1-2 ft. high from creeping rootstocks

Leaves lanceolate 4-6 in. long, sessile, glabrous; also stems

Racemes terminal, few-flowered,

Perianth white.

Segments 1/4 inch long.

Style as long as ovary, bearing 3 stigmas

Growing in damp shady ground, at Gulch No. 2.

Common in canyons.

No. 1053. April 30, 1899.

Erythronium grandiflorum f. pauciflorum P. Piper

Stems a span or two high from a scaly bulb, scape like, usually a pair of thickish, oblong-ovate or narrow leaves on short margined petioles. Glabrous. Peduncles 1 to several flowered. Perianth yellow recurved. Segments 1–1½ inch long. Stamens white ½ inch long on filaments of same length Style ½ inch long, clubshaped with 3 stigmas

Damp ground near head of No. 2 canyon.

No. 1054. April 30, 1899.
Zygadenus venenosus
Poison or Death Cammas. Bot of Calif.

Stems 1½ – 2½ ft. high, from a scaly bulb.
Radical leaves and lower stem leaves a foot long, folded, sheathing.
One or more small narrow leaves on stem
glabrous
Panicle 2-4 in. long with scarious bracts at base of pedicels.
Flowers greenish white, polygamous.
Perianth ⅓ inch across.
Anthers short, yellow, on exserted filaments
Ovary 3-lobed with 3, slender, tapering styles.

Sand hillsides, common, Gulch No. 2.

June 11, 1899. Fronting specimens on hill south of Gulch No. 2.

Z. paniculatus. P. Piper. July 9, 1899.

No. 1055. Apr. 30, 1899.
Trillium ovatum Bot. of Calif.

Dampish hillside Gulch No. 2.
Trillium crassifolium. New species.
P. Piper. Dec. 15, 1899.

No. 1056. April 30, 1899.

Hydrophyllum capitatum Bot. of Calif.
Water-leaf.

4-8 inches high from fascicled roots, biennial.
Leaves pinnately-parted, 2-several inches long, on petioles as long with sheathing base. Divisions entire or sometimes lobed, pubescent.
Flowers in close headlike raceme on peduncle 1/4-1/2 inch long.
Stamens and style exserted, folds at base.
Calyx 5-parted with oblong-lanceolate lobes, 1/2 as long as corolla, ciliate with whitish bristles.
Corolla blue 1/2 inch long.
Anthers brown, small, versatile on slender filaments.
Ovary hairy, style long, 2-lobed.

Common on hills and canyons in protected places on dampish land.

No. 1057. April 30, 1899.

Arabis

In clusters from a perennial root with slender, running rootstocks, 6-10 in. high; rough, pubescent. Radical leaves 1-2 in. long, oblanceolate on marginied petioles about as long. Cauline leaves oblanceolate, sessile. Flowers in a loose panicle.
Calyx of equal sepals 1/8 in. long, petals white, twice as long as sepals, without distinct claws. Filaments broad, with small anthers. Stigma short, style slightly lobed.

Wenatchee Flat.

Seeds in two rows, not winged
Pubescence stellate of forked hairs, both on leaves and calyx.
Pedicels 1/2 inch long ascending.
Pods an inch long, flattened, straight or curved, ascending.

See No.

May 21, 1899. Near Malaga.
18 inches high, branching,
Radical leaves 1-2 inches long, lobed.

No. 105-8. April 30, 1899.
Leptotaenia multifida Bot. of Calif.
Ferula multifida Coulter, Rocky Mt. Bot.

Stems 2-3 ft. high, sometimes appearing as a single scape, and often branching with one or more leaves.
Leaves ternately decompound, large often 1½ ft. long and as broad- on petioles of same length, dark green, glabrous
Umbel of 10 or more rays 1½-2½ in. long, elongating and spreading in fruit.
Without involucres, but with involucels.
Flowers dark brown with silvery white stamens.
Probably L. purpurea. Piper.
Fruiting specimens July 4, 1899, on side of Mt. at head of No. 1 Gulch.

Common on sandy hillsides.

No. 1059. May 2, 1899.
Tellima parviflora Bot. of Calif.

A somewhat larger plant, with larger flowers than T. tenella, No. 1017.
Calyx lighter green and more obconical,
Petals mostly three-parted sometimes with more divisions or lobes

In gulch on hillside, northwest of Wenatchee.

No. 1060. May 2, 1899.

Lithospermum pilosum Bot. of Calif.

(Stone seed)

Stems a foot high or more, stout, simple, somewhat fistulous from strong, perennial root in thick bunches, very leafy.

Leaves sessile, lanceolate, 2-3 in. long.

Stems and leaves rough, pubescent.

Flowers in a compound, panicle-like cyme

Sepals lanceolate, obtuse, 1/4 in. long, pilose.

Corolla greenish yellow, pubescent outside.

Tube as long as sepals, with spreading limb of ovate divisions, with small folds, but no regular crests in throat.

Anthers versatile on very short filaments included in the throat of corolla.

Style included, Stigma entire.

Nutlets white, shiny, and hard when ripe.

No. 1061. May 2, 1899.
Lupinus vivularis Bot. of Calif.

One year old plants; seedlings gathered earlier in season. The plant does not seem to blossom until the third year.
May 19, 1899. In bloom. Stems stout, 1½–3 ft. high, branching above, the raceme on main stem blossoming first. Several from stout root.
No radical leaves. Leaflets 7–15, oblong-lanceolate, silky pubescent on both sides, 1½–2 in. long on petioles a little longer. Stipules and bracts linear, early deciduous. Calyx strongly 2-lipped, the lower long and acuminate, the upper broader, acute. Flowers blue, occasionally albino white. Standard with sides folded back, the white in center flecked with darker spots. Keel rather straight, ciliate, tipped with brownish purple. Base of ovary villous with long hairs. Ovary 6 ovuled. Flowers on stout pedicels ¼ inch long. Raceme 6–12 inches long. Flowers ½ in. long. Whole plant pubescent.
Common in Wenatchee Flat.

No. 1062. May 4, 1899.

Sisymbrium incisum filipes Bot. of Calif.

Annual, slender, branching. Specimens a foot high or more, but often flowering when only a few inches.

Leaves pinnate, the divisions pinnatifid into obtuse, oblong, lobes.

Stems purplish, canescent.

Sepals yellow scarcely saccate.

Petals yellow, longer than sepals, ovate, blade narrowing to a claw.

Pod ½ inch long on slender spreading pedicel somewhat longer.

Waste places among rocks V.

No. 1063. May 4, 1899.
Amsinckia intermedia Bot. of Calif.

Rough bristly plants a few inches to over a foot high.
Stems simple or branching. Annual.
Leaves 1-4 in. long, sessile, tapering to both ends, alternate.
Inflorescence a scorpioid spike.
Sepals 5 oblong-lanceolate
Corolla bright yellow 1/4 inch long.
Tube as long as sepals, spreading.
Limb with small folds in throat.
Stamens on short filaments in tube.
Ovary 4-parted
Style short, slender.
Stigma slightly 2-lobed.
Nutlets seem to be rugose on back, attached above base to flat gynobase.

Among rocks near Wenatchee.

No. 1064. May 4, 1899.
Purshia tridentata Bot. of Calif.

A scraggly shrub 2-5' ft. high.
Leaves cuneate, 3-lobed at apex, canescent
below, glabrous above, ½ inch long
tapering to short petioles, somewhat fascicled.
Calyx of 5 valvate lobes on obconical tube.
Petals yellow, ovate on short claws ⅛ inch long,
inserted with numerous stamens on throat of
calyx
Ovary simple one seeded, appearing
like a folded leaf; short stipitate.

Common in Wenatchee Flat also in Ellensburg.

No. 1065. May 14, 1899.

Lesquerella douglasii — Syn. Fl. N. A.
Vesicaria — Bot. of Calif.

Many stemmed from a biennial or perennial root.
Radical leaves ovate, cuneate, an inch or so long, on marginal petioles, thickish.
Cauline leaves an inch long or more, oblanceolate mostly entire, sessile. Leaves and stems mostly densely stellate pubescent. 1-1½ feet high, branching near top.
Sepals nearly equal, oblong, yellowish.
Petals bright yellow, ½ in. long, ovate, blade narrowing into a broadish claw.
Stamens 6; filaments thickish.
Anthers oblong, sagittate at base & curved at apex.
Style slender with stigma slightly 2-lobed.
Ovary ovoid, hairy, on a very short stipe, or sessile, few seeded

Gravelly hillside north of Wenatchee River.

See No. 90. 1896. See No. 1119. June 2, 1899.

No. 1066. May 14, 1899.

Audibertia incana Bot. of Calif.

1-2 ft. high, much branching, shrubby at base. Taste and odor of sage. Leaves & stems whitish, minutely glandular. Lower leaves obovate ½-1 in. long on slender petioles of same length. Leaves under the whorls of flowers sessile, oblong. Bracts of inflorescence thin, ciliate, purplish tinge, but not scarious, 1/3-2/3 inch long, ovate or somewhat cordate. Upper lip of calyx truncate, notched, lower lip of two lobes; pubescent, ciliate, as long as tube of blue corolla. Limb of corolla very irregular ½ inch long; upper lip small, notched, lower lip with two lateral lobes, and center lobe long notched. 2 stamens, and two rudimentary filaments. Anthers oblong 1-celled, short lobe of connective with no sign of anther, exserted.
Style long exserted, with stigma of 2 unequal lobes

Sandy side hills and gulches.

No. 1067. May 14, 1899.
Delphinium
Larkspur, seems to be a new species
See No. 81, 1896. Root perennial, fascicled
but not tuberous, quite large, almost
woody. Stems slender 1½ - 2½ ft. high.
Simple except a few short branches at
lower part of the inflorescence, lower
stem and leaves glaucous.
Inflorescence glandular pubescent.
Leaves 5-7 parted, the divisions variously
cut, but the lobes mostly obtuse linear;
the lower on long petioles, 1½ - 2½ in. across, orbicular.
Petioles somewhat dilated
Flowers white or cream color, spur slender, acute,
straight or slightly curved ½ in. long and longer
than sepals, ascending. Petals 4, the lateral
bearded and notched. Anthers with a purple
stripe running down center and along the
filament. Carpels 3, puberulent. Seeds angular.

Along foothills and gulches on north side of
Wenatchee River.

No. 1068. May 14, 1899.

Pentstemon glandulosus P. Piper.

See No. 131. June 7, 1896.

Dry hillsides on north side of Wenatchee River.
Also May 25, 1899, in Wenatchee Flat. W. E. Stevens place.
Also May 19, 1899, in Wenatchee Flat near O. G. Francis.
A foot high or less. Radical leaves oblanceolate,
on winged petioles together 4-6 in. long, dentate
Perennial from an almost woody root.
Cauline leaves closely sessile - the lower linear, the
upper ovate-lanceolate, pubescent or nearly glabrous.
Inflorescence, glandular pubescent, in cymose
clusters in the axils of upper leaves on short peduncles
Calyx lobes equal, ovate-lanceolate, pilose
Corolla blue or purplish, 3/4 in. long, spreading limb & open throat, pubescent.
Anthers white, at first horse-shoe-shaped, but splitting
clear around, the cells confluent, filaments not bearded
at base; the sterile stamen bearded down inner
side with yellow hairs. Varying as to size & shape
of leaves and size of flower

P. rattani minor? Syn. Fl. N. A. 441.

No. 1069. May 14, 1899.
Phlox speciosa Bot of Calif.
The broad leaved form. See No. 1036.

stems a foot or so high, branching from a
fruticose root. Leaves linear or lanceolate,
sessile, opposite 1-2½ in. long, the upper with
broad bases. Upper part of stems and infls-
rescence glandular pubescent
Flowers in cymose clusters at ends of branches.
Calyx lobes linear-lanceolate, ½ in. long, reaching
to border of corolla.
Corolla white, lobes obcordate ⅓ in. long.
Stamens about equally inserted but some
with longer filaments.
Style very short, with three long stigmatic
branches.
Ovary with 1 ovule in each 3 cells

Growing on grassy sidehills

May 28, 1899. On side hills in Horse Lake
Country, north of Gulch No. 1.

No. 1070. May 14, 1899.
Crataegus rivularis Bot. of Calif.

A shrub 8–12 ft. high.
Thorns 1/2 – 1 inch long.
Leaves obovate, irregularly serrate, some what pubescent; 1–2 in. long with cuneate base
Stipules linear, early deciduous.
Flowers in a sort of compound umbel at ends of short branches.
Calyx campanulate, with triangular lobes fringed with glandular hairs.
Petals 5, white, inserted on thickened ring at throat of calyx.
Stamens 8 or 9 inserted on calyx tube, below the petals, throat of calyx ciliate
Styles 5. Ovary adherent to lower part of calyx.
Near bridge at Mission.

No. 1071. May 14, 1899.

Prunus demissa Bot. of Calif.

Western choke-cherry.

Shrub 3-10 ft. high, erect or branching.

Leaves ovate 1-3 in. long, on petioles ½-1 in. long.

Glands at base of blade-2.

Stipules deciduous.

Flowers white in a dense raceme,

3-5 inches long. Fruit red, edible.

A beauty in blossoming.

common in canyons.

No. 1072. May 14, 1899.

Phacelia menziesii Bot. of Calif.

3 inches to a foot high, simple or branching stems.
Leaves linear or oblong, entire or with one to five linear, obtuse lobes; pubescent.
Calyx lobes linear-lanceolate, bristly.
Corolla blue, open spreading, 1/2 - 3/4 inches across, with 5 pairs of blade like projections at base.
Stamens & style exserted about as long as corolla lobes.
Style 2-parted to middle.
Ovary hairy. Ovules 8 or 10.
Flowers in a circinate spike, extending in blossoming.

Common on waste ground.

No. 1073. May 14, 1899.
Comandra pallida Bot. of Calif.
Indian name Skoko.

6-12 inches high from suffruticose root.
Stems in bunches, somewhat branched above, smooth.
Leaves sessile, linear-lanceolate to ovate, one inch long.
Flowers paniculate.
Calyx tube adherent to ovary.
Lobes petaloid, greenish white.
Stamens opposite the lobes.
Pistil simple, one celled.
Style crooked with capitate stigma.
Fruit a small nut 1/4 inch through.

Indians are said to boil the plant in milk and use the curd as an eye salve.

Difference between this and C. umbellata mostly imaginary.

No. 1074. May 14, 1899.

Erigeron dryopsides P. Piper.

See No. 631, May 5, 1898.

Stems slender, a span high, in thick clumps from a multicipital, shrubby caudex.
Leaves linear, the radical 2-3 in. long, the cauline few, an inch long.
Whole plant pubescent.
Involucre 1/4 in. high of linear bracts, closely imbricated
Rays yellow, 20-25, 1/4 inch long.
Pappus tawny barbillate bristles.

Common on sandy hillsides.

No. 1075. May 14, 1899.

Cystopteris ~~fra~~ fragilis Bot. of Calif.

Frond 4-6 inches high, bipinnate, the pinnea with blunt teeth, not jointed to the horizontal rootstock.
Stipe slender, brownish.
Sori roundish, with an indusium attached to the vein below the sorus, edges fringed, covering the sorus like a flap.

On side hills and among rocks.

No. 1076. May 17, 1899.
Delphinium menziesii Syn. Fl. N. A.

1-2 ft. high, from fascicled, tuberous root.
Lower leaves 3-6 parted, the divisions once or several times parted into oblong-linear, obtuse divisions, on petiole several inches long.
Upper leaves less divided, on shorter petioles, and becoming linear bracts to the inflorescence.
Lower stem and leaves glabrous, pubescent about.
Lower peduncles long often with bracts.
Upper peduncles becoming shorter.
Flowers dark, bluish, purple.
Spur and sepals nearly an inch long, pubescent.
Spur rather stout, nearly straight.
Upper petals light-colored, striped with purple, short; side petals notched, bearded.
Anthers with purple stripes down center.
Ovaries 3 pubescent.

Foothills around Wenatchee.

No. 1077. May 17, 1899.
Potentilla rivalis millegrana Bot. of Cal.

1-2 ft. high, slender, strict or somewhat branching, from slender rootstock.
Leaves 3-foliate, the lower on slender petioles, 2-4 inches long.
Leaflets 1/2-1 1/2 inch long; obovate, cuneate base, cuneate-dentate apex.
Leaves and stems villous pubescent.
Stipules entire, lanceolate, 3/4 inch long.
Flowers small 1/4 in. across, in a leafy panicle.
Sepals ovate; bracts of same length, lanceolate.
Petals bright yellow, ovate, small, attached to side of ovary.

Along ditches

Later in June, along Columbia on sandy land.

No. 1078. May 17, 1899.
Perucedanum nuttallii Bot. of Cal'y.

Root long and slender, acaulescent.
Leaves 3-foliate, sometimes 5-leaflets.
Leaflets entire, glabrous, ovate, 1-2 in.
long, on petiolules as long.
Inner petiole inflated.
Scape a foot or so high, bearing a compound umbel of 10-15 spreading rays;
the inner rays bearing staminate
flowers; neither involucres nor involucels.
Raylets very numerous.
Calyx-teeth obsolete.
Flowers yellow.
On heavy clay or alkaline soils.

July 4, 1899. Fruiting specimens.
Stems 1-1½ ft. high.
Rays 6 inches long.

Hills west of Wenatchee.

No. 1079. May 19, 1899.
Castilleia pallida septentrionalis B. & G.
Painted Cup.

Perennial, 6-12 inches high, branching, many stemmed from suffrutescent root.
Leaves simple, lanceolate or with one to several lobes; 1-2 inches long.
Bracts 3-5 lobed, but little colored.
Calyx pale, greenish yellow, scarcely colored; about equally cleft before and behind, much exceeding the corolla.
Galea about half as long as tube and twice as long as the 3-parted lower lip of corolla.
Whole plant pubescent.

Wenatchee Flat and foothills.

No. 1080. May 19, 1899.

Vicia americana Bot. G. Calif.

Stems sharply 4-angled, almost winged.
Leaflets 1-2 inches long, oblong-lanceolate,
8 or 10; truncate, mucronulate, on short petioles.
Stipules small, petiolate, reniform with
3 or more teeth.
Rachis prolonged into a long tendril.
Raceme 6-9 flowered.
Calyx purplish with 3 lower teeth much longer than upper.
Corolla blue 3/4 inch long.
Standard 1/2 ins. broad; notched.
Style tipped with quite large tuft of hairs.
Pod stalked ins flower, 10-12 ovules.
Perennial, climbing by tendrils.

Along water-ditch at O. G. Francis place.

No. 1081. May 19, 1899.

Carex festiva Bot. of Calif.

A foot high or more, caespitose.
Stems smooth except a little scabrous near top.
Spikelets aggregated at top of stems, 10-15, dark brown.
Head ½ inch high, ovoid, ½ inch wide.
Spikes staminate at bottom.
Bracts small, aristate.

Along bank of ditch at Francis place.

No. 1082. May 21, 1899.
Pentstemon

Stem rather stout, 2 ft. high from thick root stocks.
Radical leaves 4-6 in. long on margined petioles,
oblong-lanceolate, entire.
Cauline leaves 2-4 in. long sessile,
ovate-lanceolate.
Stem and leaves pubescent.
Inflorescence some what glandular, a
series of spikes on short peduncles,
appearing like whorls.
Corolla 1½ inch long, bluish purple with open
throat, pubescent outside, 2-lipped with
rounded, spreading lobes.
Sterile filaments glabrous enlarging above, flattish.
Anthers slightly pubescent, horse-shoe shaped
saccate at base. Style slender, recurved at top.
Side hills 5 miles below Wenatchee.
Radical leaves smooth, calyx of equal lanceolate
lobes as long as the tube; glandular pubescent.
Corolla-tube and throat, a full inch long, lobes
¼ in. long, plainly 2-lipped.
Answers description of P. glandulosus, except the
leaves are all entire

No. 1083. May 21, 1899.

Pentstemon dentatus v. heterandra Syn. Fl. N. A.

Stamens slender a foot high, several from a suffrutescent root, glabrous. Radical leaves 1 in. long on slender petioles, dentate.

Cauline leaves 1-2 in. long, oblong-lanceolate, sharply dentate, glabrous.

Inflorescence paniculate, on peduncles 1-1½ in. long, erect.

Corolla white ½ in. long, with rather narrow tube and spreading border.

Calyx teeth acute, with several small teeth.

Outside of corolla pubescent.

Sterile filament slender, glabrous; sometimes with an abortive anther and often with anthrous spots at apex

Anthers dark on back; white in fruit opening all around

Style slender, straight.

Filaments not bearded at base.

On gravelly slopes 5 miles below Wenatchee.

No. 1084. May 21, 1899.

Pentstemon gairdneri Bot. of Calif.

Root suffrutescent; stems slender, many from one root, 9-15 inches high.
Leaves an inch long, oblanceolate, entire, scattered.
Leaves and stems densely pubescent.
Calyx lobes oblong-ovate, unequal.
Corolla purple, pubescent outside, ½ in. long.
Tube and throat but little inflated, purple with spreading border.
Sterile filament bearded at apex.
Filaments not bearded at base.
Anthers purple, explanate.
Style long and slender.

On heavy clay or alkaline ground.

No. 1085. May 21, 1899.
Aster

3-4 inches high. Rays white, disk yellow.
Many on several stems from stout root.

Dry gravelly ground near Malaga.

Erigeron poliospermus Prof. Piper. July 9, 1899.

No. 1086. May 21, 1899.
Senecio lugens Bot. of Calif.

2 ft. high or more, glabrous, from rootstocks.
Radical leaves ovate-lanceolate, on margined petioles, 6-8 inches long.
Cauline leaves bract like, 1 inch long, with clasping base.
Heads corymbose.
Involucre of a single series of thick, erect, bracts with black tips, and a few caliculate ones below.
Rays yellow 6 or 7 in number, 1/4-1/2 in. long.
Pappus of unequal, white, scabrous bristles, somewhat branching.
Akenes cylindrical, several nerved.

Damp ish ground, common on foothills, & in canyons.
Damp sidehill near Malaga.

May 28, 1899. Specimens just blossoming; very floccose woolly.
On Mountain north of Gulch No. 1.

No. 1087. May 21, 1899.

Crepis occidentalis Bot. of Calif.

Cont. U.S. Herb. III. 9.

6-8 in. high from tap root. Pubescent-lanate.
Radical leaves 6 in. long, 1 in. wide, lacinate, dentate or
margined petioles. Cauline leaves few & smaller.
Top of root crowned with old leaf stocks.
Inflorescence cymose. Involucre of 8 or 9 oblong bracts
½ in. long, obtuse, with some short acute ones below,
cylindraceous about 12 flowered. Corolla yellow.
Pappus copious of fine white bristles. Akene short
several nerved. Glandular hairs on the branches & calyx.
Pappus borne on a sort of cup at apex of achene, 15 nerved
Rocky ground near Malaga.

May 28, 1899. Specimens from rocky side of Mt. at head of
No. 1. Gulch, Wenatchee. Leaves more deeply pinnatifid,
& few remains of old leaves at crown of root.
Tomentuse with dark, glandular hairs on the peduncles
and involucre; outer calyculate bracts to the
cylindro-campanulate involucre.
June 11, 1899. Larger specimens on grassy slopes
south of Canyon No. 2. Wenatchee.

No. 1088. May 21, 1899.

Helianthus

A foot or so high, simple stemmed annual, scabrous.
Leaves an inch or so long, ovate on short petioles, opposite.
Head single an inch across.
Involucre of 2 or 3 rows of ovate scales, acuminate pointed.
Rays about 12 yellow 2/3 inch long, neutral
Outer akenes 3 or 4 angled, with as many lanceolate teeth for pappus.
Inner akenes flattish with pappus of two scales.
Chaffy receptacle. Disk flowers dark brown.
Chaff of one long lanceolate tooth and 2 smaller.

Bank of R.R. grade near Malaga.
Seems to be a desperate form.

No. 1089. May 21, 1899.
Lewisia rediviva Bot. of Calif.

Stems several, mere scapes from a thick root,
1-2 inches high with several scarious linear bracts
at middle.
Flower 1½ inches across— a beauty!
In dry rocky land near Malaga

Said to be almost impossible to kill the root.

No. 1090. May 21, 1899.
Eriogonum umbellatum Bot. of Calif.

1-1½ ft. high from a branching woody base.
Leaves 1-2 inches long, oblanceolate, densely white-tomentose beneath and less tomentose above.
Peduncles 6-12 inches long, naked or with a single bract or leaf.
Umbel simple, rays 5-10 subtended by a whorl of leaves, about an inch long.
Lobes of involucre 5-9, reflexed, shorter than tube.
Perianth many flowered cream color, with stipe-like base.
Stamens 9, filaments woolly at base.
Styles 3, ovary hairy at top, not winged.

Common along Columbia, in rather sandy soil.

E. linarioides P. Piper July 9, 1899.

No. 1091. May 21, 1899.

Eriogonum douglasii Bot of Calif.

6-8 inches high, from tough woody base.
Peduncles slender 3-4 in long, with whorl of leaves in middle.
Leaves 1/3 - 3/4 in. long, oblanceolate, pubescent above,
white woolly below.
Involucre single, with about 8 acute erect teeth.
Perianth densely woolly outside, with stipe-like
base. Cream color or purplish.
Styles 3, ovary not winged, somewhat hairy above.

Dry rocky grounds along Columbia and on hills.

E. thymoides Prof. Piper. July 9, 1899.

No. 1092. May 21, 1899.

Allium acuminatum Bot. of Calif.

Stems smooth, slender, terete, a foot high, with
scarious sheaths near base.
Bulb globular ½ inch in diameter.
Umbel of 10 or more rays with scarious involucre.
Perianth ½ in. long, purplish, inner segments serrulate
rather opening by splitting down middle of cells
at a kind of suture.
Filament continuing into a sharp point beyond
anther.
Ovary globose with no crown.

Dry ground along R. R. track near Malaga.

No. 1093. May 21, 1899.

Oenothera andina Bot. of Calif.

2-4 inches high, branching.
Leaves lanceolate, ½-1 inch long, pubescent.
Ovary narrowing above.
Calyx tube extending beyond ovary.
Lobes reflexed
Petals wide-ovate, yellow. Stamens 8.
Stigma large capitate

Specimens collected are larger than common.

No. 1094. May 24, 1899.

Agoseris heterophylla. Coville's letter.

3-6 inches high. 1- several slender scapes from a tuft of radical leaves from biennial root.
Leaves obovate or oblanceolate, 1-2 in. long, entire or with a few teeth or lobes- pubescent.
Involucre of an inner set of oblong-lanceolate bracts 1/2 - 3/4 inch long, lengthening in fruit, and an outer set of obtuse calyculate bracts.
Corolla yellow, pappus fine, white, abundant.
Achene with a slender neck, elongated in fruit.

Common on rather open waste ground at Wenatchee Flat.

Tropinon heterophyllum — Syn. Fl. N. A.
Tropinon chilensis — Bot. of Calif.

The plant seems to me to be more than annual. I do not remember seeing it over 6 inches high either here or at Ellensburg.
June 9, 1899. Specimen a foot high in old fields.

No. 1095. May 25, 1899.
Potentilla glandulosa v. nevadensis. Bot. of Cal.

1½-2 ft. high from stout suffrutescent root.
Several stems from root; erect somewhat
branching; root crowned with old leaves
and stems. Glandular-pubiscent.
Leaves irregularly pinnate.
Leaflets sessile, broadly ovate, doubly
serrate, about 7 in number; ½-1 in. wide.
Sepals entire or with one or two blunt
teeth; ovate to lanceolate.
Flowers about ½ inch across.
Bracts of calyx much narrower than
the broad lobes, and ⅔ the length.
Petals ovate, light yellow.
Stamens 20.
Styles glandular, enlarged, obliquely
attached.
Upper leaflets only three.

Along Settlers' ditch, Wenatchee Flat.

No. 1096. May 25, 1899.
Senecio aureus borealis Bot. of Col.

about a foot high, rather slender, strict, erect, from a rootstock
Radical leaves ovate ½ inch long, serrate, on margined petioles.
Cauline leaves lanceolate, very sharply serrate, becoming mere bracts on upper part of stem.
Leaves and stem floccose woolly when young, becoming glabrate, purplish brown.
Involucre cylindrical, of appressed bracts ⅓ inch high, some short, lanceolate purplish, calyculate bracts at base.
Rays about 12, ⅓ inch long, bright yellow.
Pappus plentiful, of fine white scabrous bristles.
Akenes glabrous.

On rocky bar of Columbia, at Wenatchee.

No. 1097. May 26, 1899.
Plantago patagonica Bot. of Calif.

A span high or less.
One to several scapes from a tuft of oblanceolate leaves; annual, villous-lanate.
Leaves tapering to margined petiole; one nerved, sometimes faintly 3-nerved.
Scape ½-3 inches long, densely flowered, bracteate.
Sepals 4 oblong, obtuse, the two upper with scarious margins.
Petals scarious, persistent, apparently somewhat irregular.
Stamens 4 mostly on short included filaments, but a few with longer filaments, barely exserted.
Style hairy.
Ovary 2 celled with one seed in each.

Dry waste ground.

No. 1098. May 26, 1899.
Erigeron corymbosum Bot. of Calif.

6-12 inches high, many stems from a perennial root, leafy to top.
Heads cymose or corymbose, several at top of stems, villous-pubescent.
Leaves oblanceolate, 2-3 inches long, tapering to margined petiole.
Involucre of appressed rays, cup-shaped.
Rays white or light blue, ⅓ in. long, about 60.
Pappus dull white with outer pappus of slender short hairs.
Akenes pubescent.

Dry waste ground, Wenatchee, Ellensburg, Common.

E. concinnus Prof Piper. July 9, 1899.

No. 1099. May 28. 1899.
Krynitzkia glomerata Bot. of Calif. 1:

A foot or so high; several stems from a perennial; very hispid.
Leaves entire.
Flowers numerous, white, 1/3 in. across.
Crests in throat of corolla.
Nutlets rugose on back.

Sandy land on north side of Gulch No. 1.

No. 1100. May 25, 1899.
Erysimum occidentale Syn. Fl. N. A.

Several stems from stout ~~root~~ 1½ ft. high.
Flowers large, bright yellow.
Leaves linear-lanceolate, denticulate

North side of Gulch No. 1, on hillside.

No. 1101. May 28, 1899.
Arnica cordifolia Bot. of Calif. 1-
1-1½ ft. high, monocephalus, pubescent,
from rootstocks.
Leaves cordate. 1e,

Damp ground, in timber, on hills, west
of Wenatchee.

No. 1102. May 28, 1899.

Pentstemon whitedii Prof. C. V. Piper. 1.

On sandy side hill above spring on Section 36, west of Wenatchee, at place where original specimens (No. 131, June 7, 1896) were collected.

Common on sandy and gravelly hills, in foothills & valley, near Wenatchee. 1-2 ft. high in tufts from perennial root. See No. 1068, May 14, 1899. 2 e.

Radical leaves mostly glabrous, thickish, lanceolate or oblanceolate; 4-6 in. long, including the margined petiole.

Cauline leaves 1½ - 2½ in. long, thinnish, ovate - lanceolate, clasping at base, pubescent, somewhat glandular, as the upper stem.

Inflorescence glandular so as to feel damp & clammy to the touch; lower peduncles ½ in. long, many flowered, pedicels short or none.

Calyx lobes dark, ovate - lanceolate. Corolla ⅔ in. long purplish, pubescent, glandular outside, proper tube as long as calyx, ample throat with spreading rounded lobes; lower lip most often bearded within; sterile filament bearded nearly whole length, enlarged at tip; filaments naked. Anthers white, purplish on back - anthers opening whole length. Style slender; curved at tip.

See No. 1166.

No. 1103. May 28, 1899.
Phacelia humilis. Bot. of Calif. 1.

3-6 inches high, branching annual.
Leaves simple, entire, oblong-oblanceolate
1-2 inches long, including margined petiole
Inflorescence a circinate spike, hispid, pubescent.
Calyx lobes linear, shorter than bright blue corolla.
Corolla deeply 5-lobed ½ inch across.
10 appendages at base united with, and
partly enclosing, the base of the filaments.
Filaments and style exserted.
Filaments naked, style 2-cleft, bearded.
Ovary pubescent bearded - 4 seeded.

Dumping ground in side of canyon
near Horse Lake west of Wenatchee.

June 11, 1899. Large specimen at head
of Dry Gulch.

No. 1104. May 28, 1899. Coulter Rocky Mt. Bot.
Aplopappus launginosus Syn. Fl. N. A. 1.

6 inches high, from creeping, perennial rootstock, white canescent.
Leaves linear-lanceolate, 1-2½ inch long on margined petioles.
Heads large, solitary, terminating the stem.
Involucre of about 20 lanceolate bracts ½ inch long.
Rays 15-20 bright yellow ⅔ in long, fertile
Receptacle naked. Akenes pubescent with a basal callus.
Pappus simple, of rather coarse bristles, scabrous-barbillate
Disk of corolla yellow, 5-lobed.
Style branches with broadly lanceolate appendages

Same as No. 114, 1896.

No. 1105. May 28, 1899.

Lupinus calcaratus Bot. of. Calif. 1.

2 ft. high, slender, several stems from tough root. -
Lower leaves, and radical on petioles 6-8
inches long; upper petioles 1-2 inches long, te,
as long as leaflets.
Stem and leaves silky canescent on both sides,
leaflets 8-13, oblong-lanceolate.
Raceme long and slender; flowers small
1/2 inch long. Stipules linear; bracts
linear soon falling off; pedicels 1/3 in. long.
Upper lip of calyx strongly saccate, bluish,
2-toothed. Lower lip large, 2-toothed, hirsute.
Lateral bracts linear.
Standard short, truncate, reflexed, dark
blue, white in center, flecked with dark spots.
Wings not hirsute; keel short, little
curved, ciliate; ovary 6-ovuled, pubescent.
Standard hairy inside, near base.

Gulch near spring on Section 36, west of
Wenatchee. July 4, fruiting specimens
at Mt. head of Gulch No. 1.

No. 1106. May 28, 1899.
Lathyrus palustre Bot. of Calif.

A foot or so high from slender root. Leaflets oblong, about 4 pairs, and tendril, cuspidate. stipules one inch long; the upper lobe lanceolate; stems sharply angled almost winged; peduncles 3-5 flowered; larger than described - 1 inch long, purplish blue

Dryish land in Horse Lake Region.

May be same as next.

No. 1107. May 28, 1899.
Lathyrus venosus Bot. of Calif.

2 or 3 ft. high, climbing; stems angled but not winged; leaflets 4 or 5 pairs with tendrils, linear-oblong or lanceolate, acuminate; stipules small.
Flowers one inch long.

On dampish ground in margin of thickets in Horse Lake Region west of Wenatchee.

No. 1108. May 28, 1899.
Galium multiflorum v. watsoni Bot. of Cal.

6-8 inches high, much branched, shrubby at base, angled, but very slightly scabrous.
Leaves ½ inch long, mostly in 4s
Flowers numerous dioecious, polygamous, the staminate most numerous;
greenish-white 1/8 inch across.
Ovary hispid-villous.

Dry ground on foothills west of Wenatchee

June 11, 1899. Fruiting specimens.
Fruit a burr covered with long, rather soft hairs,
Side hill south of Canyon No. 2.

No. 1109. May 28, 1899.

Ceanothus velutinus Bot. of Cal.

A stout shrub 2-3 ft. high.
Leaves thick on stout petioles, ½ in. long, ovate orbicular, 1-2 inches long, glandular serulate.
Flowers white in a crowded thyrsus.
Petals hooded

Common on dry sides of Canyons.

No. 1110. May 31, 1899.
Oenothera albicaulis Bot. of Calif.

Stems a foot high or more, branching, white, and smooth.
Leaves 2-4 inches long, lanceolate, sessile, dentate, glabrous.
Ovary an inch long, calyx tube extending above it about an inch.
Lobes somewhat united, lanceolate, reflexed and longer than tube.
Petals 4, broadly obovate, one inch long, white with yellow ~~base~~, opens mostly at night.
Stamens 8 with slender filaments, and linear, versatile anthers.
Style long and slender.
Stigma 4-parted, linear, spreading.
Flowers fragrant; blossoms all season.
Petals changing to dark rose-color in drying.

In sandy soil.

No. 1111. May 31, 1899.
Pentstemon glaber Bot. of Calif.

1½ - 3 ft. high, very glabrous; from stout perennial root.
Leaves lanceolate 3-6 inches long; the lower tapering ~~to~~ margined petiole, the upper sessile.
Pedundes stout, ½ inch long, many flowered; pedicels 1/6 inch long.
Calyx somewhat irregular, lobes thickish, acute.
Corolla 1½ inch long, blue or sometimes almost white, tube a little longer than calyx, moderately enlarged above, two-lipped with open throat.
Corolla, filaments &c. entirely without beard. Anthers open whole length, but not widely explanate

Also June 9, 1899.

Common in Wenatchee Flat.

No. 1182. May 31, 1899.
Crepis acuminata Bot. of Calif.

Slender branching 1½ - 2½ ft. high.
One or several stems from a slender tap-root.
Somewhat canescent below, and the
inflorescence; glabrate on upper stem and
branches; no long or glandular hairs.
Involucre ½ inch high, cylindrical or
campanulate, of about 9 lanceolate
bracts, and a few short calyculate
ones below. Pappus plentiful
Akenes 10, castate, narrowed at both ends
Lower leaves 6-12 inches long or more,
lanceolate in outline; pinnatifid into
linear divisions, and with a long
tail-like acuminate point;
upper leaves often entire and linear

Common in Wenatchee Flat

Also June 9, 1899. Akenes elongating and
becoming spindle-shaped when
ripening.

No. 1113.

Lepidium apetala Syn. Fl. N. A.
" intermedium Bot. of Calif.

Branching annual 6-18 inches high.
Lower leaves toothed or pinnatifid.
Upper entire, lanceolate, an inch long.
Pedicels spreading 1/4 in. long, flattened.
Pods flat, orbicular, notched at apex.
Stigma sessile. Petals none.
Stamens 2.

Common on Wenatchee Flat.

May 31.

No. 1114. May 28, 1899.
Aphylon uniflorum Bot. of Calif.

Flowers purplish rising on slender scape a few inches above ground, mostly simple

Sandy ground on hills near head of Canyon No. 1.

No. 1115. June 1, 1899.
Aphylon fasciculatum Bot. of Calif.

Scapes several from a sort of underground stem.
Flowers yellow with purplish tinge
Found only one specimen.

Wenatchee Flat

No. 1116. June 1, 1899.
Erigeron filifolium Bot. of Calif.

Perennial from a somewhat woody root.
Many stemmed 6-12 inches high,
rather leafy, branching near top;
each branch usually bearing a single
head.
Leaves 1-2 inches long, narrowly-oblanceolate, or filiform near top; pubescent.
Involucre lanate 1/4 inch high, closely
imbricated.
Rays about 70 or bluish, 1/3 inch long.
Pappus scanty, apparently simple.
Style appendages short triangular.
Akenes pubiescent flattish.

Common in Wenatchee Flat.

No. 1117. June 2, 1899.

Gaillardia aristata Bot. of Calif.

Biennial or perennial 1-2 ft. high, pubescent scabrous.

Leaves 1-3 inches long, lanceolate, pinnately lobed; the upper sessile, the lower on margined petioles.

Stems simple or branching, having long-pedunculate, single, large heads.

Involucre lanate, of spreading leafy bracts.

Rays 8-12, yellow, 2/3 inch long, 1/3 in. wide, 3-4 cleft.

Receptacle beset with awn-like scales.

Pappus of 6-8 chaffy scales, tipped with awns.

Akenes bearded.

Disk corollas brownish with acuminate lobes.

Styles with linear appendages

Common on gravelly bars of Columbia.

No. 1118. June 2, 1899.

Peucedanum evittatum P. Piper, July 9, '99.

Root erect, enlarged into a sort of tuber.
Stems short, reaching hardly above ground,
with scapes 6-12 inches long.
Leaves pinnately decompound, the
divisions 1/8 inch long, oblong-lanceolate.
Stem and leaves pubescent.
Umbel compound with no involucre.
Rays of fertile flowers 10-12, subtended
by involucels of 10-12 linear bracts.
Rays in fruiting 1½ inches long.
Fruit glabrous 2/3 inch long, 1/3 in. wide.
Strong scented.

Same as No. 1035. Prof. Piper.

No. 1119. June 2, 1899.
Lesquerella douglasii Syn. Fl. U.S.

Branching from top of tap-root, 1½ ft. long, decumbent, densely stellate pubescent.
Radical leaves obovate ½ inch long on slender petiole, entire or obscurely crenate.
Cauline leaves oblanceolate, an inch long.
Pedicels slender ½ inch long, curving upward.
Pod obovate or nearly spherical, not compressed, densely pubescent, crowned with slender style, a little longer than the pod. Cells 1-2 seeded.
Sepals about equal, not saccate, yellowish.
Petals spatulate, bright yellow, ½ longer than sepals.
Filaments slender, not thickened below.
Anthers sagittate, not very long, curving at apex.

Rocky bars of Columbia at Wenatchee.

See No. 98. May 17, 1896.
Does not seem to be the same as No. 1065.

No. 1120. June 3, 1899.

Malvastrum munroanum Coult. R. M. Bot.
Sphaeralcea munroana Syn. Fl. N. A.

Stems 1-2 ft. high, several branching, decumbent from a tough perennial-root
Leaves ovate, 1-2 inches long, somewhat 3-lobed, coarsely serrate on petioles 1-1½ inches long, stipules linear; stem and leaves densely pubescent.
Calyx with three linear bracts, lobes about as long as tube, valvate.
Corolla scarlet-red, ⅔ inch across, convolute in bud.
Stamineal tube antheriferous to top.
Stigma capitate.
Ovary 10-celled, with one ovule in each cell

In stony or sandy ground along Columbia.

No. 1121. June 9, 1899.

Mentzelia dispersa Bot. of Calif.

Annual, 6 in. - 2 ft. high, branching, stems brittle, white.

Stems and especially the leaves pubescent with very short barbed hairs.

Leaves sessile, lanceolate, the lower toothed, or incised, 3-4 inches long; the upper ovate and nearly entire.

Calyx united with ovary into a long tube, 1/4 inch long; one celled with parietal placenta, Lobes of calyx ovate-lanceolate, obtuse, valvate, 1/6 inch long.

Corolla bright yellow, 1/4 inch across.

Stamens 15 or more. Filaments slender.

Anthers short, oblong, 2-celled.

Stamens & ovate petals borne on calyx tube

Style stout with capitate stigma somewhat lobed.

Seeds cubical, angled, grooved on the angles.

No. 1122. June 4, 1899.
Mentzelia albicaulis Bot. of Calif.

A more slender plant than No. 1121, the
flowers smaller, and ovary shorter,
leaves more divided,
Seeds irregularly angled.
Otherwise much the same.

Common on Wenatchee Flat.

No. 1123. June 4, 1899.
Crepis barbigera Cont. U.S. Herb.

A larger plant than No. 1112. 2 ft. high, several branching stems from a perennial tap-root; pubescent, sometimes with a few longer hairs.
Involucre 3/4 inch high, beset with stiff yellowish hairs; no calyculate bracts.
Pappus white, plentiful.

Wenatchee Flat and foothills.

No. 1124. June 4, 1899.
Collomia grandiflora Bot. of Calif.

Stems strict or later branching, annual. Lower leaves and stem glabrous; upper part pubescent, and the inflorescence glandular and fragrant. Leaves lanceolate, 1-2 inches long, sessile. Flowers in dense clusters at ends of stem and branches; heads surrounded with a whorl of leaves like an involucre. The flowers in the clusters on very short branching pedicels. Calyx glandular, the obtuse lobes 1/8 inch long and as long as the tube; lobes brownish. Calyx and corolla glandular pubescent. Stamens on slender filaments with blue anthers, unequally inserted on tube of corolla, and some anthers much higher up than others. Style long and slender with a 3 lobed apex. Corolla tube 3/4 inch long, and spreading lobes 1/4 inch long, cream color. Ovules solitary.

Usually along damp banks, or border of cultivated land.

See Bench Mt. Aug. 6, 1899.
?

No. 1125. June 4, 1899.
Rosa pisocarpa Bot. of Calif.

Flowers rather small, petals very dark rose-purple.

In bed of old creek, near Mrs. Rickman's, Wenatchee.

No. 1126. June 4, 1899.
Chaenactis douglasii Bot. of Calif.

1-2 ft. high, branching from perennial or biennial root, tomentose.
Leaves 2-3 inches long, variously pinnatifid, the final divisions fleshy obtuse.
Heads cymose, clustered, rayless.
Involucre 1/2 inch long, cylindraceous, or campanulate, of closely appressed bracts, imbricated, in several rows, the outer shorter.
Heads 1/2 inch across. Corolla cream color.
Receptacle naked,
Pappus of several unequal hyaline scales, 1/2 length of corolla tube.
Corolla 5-lobed, spreading border.
Staminate tube and style long exserted.
Style with long recurving branches.
Akenes terete, obtusely 4-angled, pubescent.
Marginal corollas little, if at all, enlarged.

Common in Wenatchee Flat.

No. 1127. June 6, 1899.

Polygonum coarctatum Bot. of Calif. 1:120.

1/2 – 1 1/2 ft. high, slender branching annual.
Stems minutely pubescent and scabrous on the margins.
Sheaths scarious including the margins, with lacerate margins.
Sepals pink or white, with dark mid-rib.
Styles as long as the triangular akene, cleft 1/2 length.

Shady grounds, Wenatchee Flat.

No. 1128. June 8, 1899.
Rigiopappus leptocladus Prof. Piper. Bot. of Calif.

3-6 inches high, at first with capitate head, but later branching with long slender branches bearing 1 or 3 heads.
Leaves alternate, linear, pubescent.
Involucre of 6-18 bracts, each enclosing an akene, mostly with pistillate short rays, a few linear bracts at base of involucre. Chaffy scales between the involucre and disk flowers which are seemingly perfect.
Styles of disk flowers with slender acuminate points.
Pappus of 3 persistent pointed scales as long as the tube of yellow corolla.
Both ray & disk flowers with pappus.
Akenes cylindrical, pubescent, brownish when ripe 1/4 inch long.
Only a part of the outer series of flowers with strap corollas.
Signules short and rolled up so as hardly to be noticed.

No. 1128. June 8, 1899.
Phacelia circinata Bot. of Calif.

t.1.

6 inches to 2 ft. high, branching, decumbent, from a perennial root; pubescent hispid, whitish colored.
Leaves oblong-lanceolate, obtuse, entire; 1-5 inches long, on winged petioles or nearly sessile, no stipules.
Flowers in dense circinate spikes, on short peduncles.
Calyx 1/6 inch long, nearly as long as the whitish corolla. Lamellar appendages at base of corolla connected with base of filaments.
Filaments hairy, and with the 2-lobed styles exserted.
Ovary hairy; Seeds 2 to each placenta.
Veins in leaves very prominent.

Common, from timber-line on Mts. to lowest valleys; usually on sandy or rocky soil.
Phacelia magellanica Plants of N. Idaho.
" heterophylla Prof. Piper. July 9, '99.

No. 1130. June 9, 1899.

Stipa comata — Bot. of Calif.

Needle & Thread. U.S. Dept. Agric. Div. Agrost. 1897

Bull. No. 5. p. 23 (plate)

1½–3 ft. in clumps.

Specimens from sandy soil in old field.

Wenatchee.

With No. 1131.

No. 1131. June 9, 1899.

Koeleria cristata Bot. of Calif.

Prairie June grass. U.S. Dept. Agric. Div. Agrost 1897. Bull No. 9. p. 29. (plate)

Sandy ground in old field near Wenatchee.

With No. 1130.

No. 1132. June 10, 1899.

Madia filipes Bot. of. Calif.

Annual, 6–10 inches high, somewhat branching above, hirsute, glandular-pubescent, fragrant.

Leaves alternate linear. Heads 1/4 inch across, at ends of slender peduncles.

Involucre of about 5 bracts, each enclosing a dark colored curved akene.

Rays short; disk flower only one.

Dry ground among rocks, near Wenatchee.

No. 1133. June 10, 1899.

Iva axillaris Bot. of Calif.

A foot or more high, branching perennial from rootstocks; pubescent, somewhat glandular.

Leaves ovate, sessile, 1-1½ inch long; alternate or lower opposite.

Scales of involucre connate into a sort of cup.

Heads in axils of leaves; rayless, monoecious in same head.

Akenes thick turgid, somewhat tuberculate.

Corolla short.

Stamens almost separate in open corolla, with undivided style and no ovary.

No pappus

Along R. R. embankment, Wenatchee.

No. 1134. June 11, 1899.
Heuchera cylindrica glabella. Bot. of Calif.

Scape 1-2 ft. high, from stout root; pilose,
Leaves orbicular-cordate, Pubescent.
1½ inch across on petioles 4-6 inches long,
5-lobed, doubly crenate, nearly glabrous;
petioles pubescent.
Spikes 1-2 inches long, bracteate with
thin lanceolate bracts, beset with
glandular hairs.
Lobes of calyx glandular-pubescent
Petals obsolete, stamens 5; opposite
lobes of calyx; inserted on base of calyx
Styles 2. Filaments shorter than calyx.

Near edge of timber in foothills.

No. 1135. June 11, 1899.
Cornus stolonifera Coulter R. M. Bot.

Dory wood. A shrub 5 or 6 ft. high with reddish brown branches.
Leaves opposite, ovate, ½ - 3 inches long, entire, veins prominent, dark green above, lighter below; minutely pubescent on both sides, with hairs jointed in the middle; on petioles ½ inch long, without stipules.
Flowers in a flat-topped cyme on peduncle 1 inch long, white.
Calyx adherent to ovary, ⅙ in long, teeth obsolete.
Corolla of 4 sessile petals inserted on top of calyx, and as long as tube of calyx.
Anthers oblong notched at base, on short filaments, alternate with petals.

Common along canyons, Wenatchee.

No. 1136. June 11, 1899.

Cacalia nardosmia

Adenostyles nardosmia — Bot. of Calif.

Cacaliopsis nardosmia — Syn. Fl. N. A.

About 2 ft. high from stout root.

Flowers woolly at first but becoming glabrous.

Radical leaves ovate or cordate in general outline, 6-8 inches across, on long petioles; palmately lobed, crenate.

Cauline leaves much smaller, becoming bracts.

Heads rayless, 3/4 inch high, 1/2 inch wide.

Involucre of narrow appressed bracts, like senecio.

Receptacle naked.

Pappus of copious, white, scabrous bristles.

Corolla yellow.

Style branches obtuse or truncate.

In canyons & in timber, high up in hills.

No. 1137. June 11, 1899.
Arnica chamissonis Bot. of Calif..

a foot or so high, in clumps, usually, 1 head; but sometimes 3; pubescent, glandular, sweet scented. Radical and lower leaves oblanceolate attenuate to a marginal petiole, entire 4-6 in. long, and 1 inch wide.
Upper cauline leaves 1 pair, ovate-lanceolate 1-2 inches long. Heads 3/4 inch high and as broad. Involucre of one series of lanceolate bracts, appressed. Rays 8-12, yellow, 3/4 inch long, pistillate. Receptacle naked.
Pappus of rather coarse scabrous bristles.
Disk corollae yellow, 5-lobed, campanulate throat with spreading limb, tube pubescent.
Akenes purplish nearly terete, pubescent.
Style appendages ovate with short mucro.

In open ravine on clay soil, south of Canyon No. 2 - Wenatchee.

Arnica fulgens Prof. Piper. July 9, '99.

No. 1138. June 11, 1899.

Helianthella douglasii Syn. Fl. N. A.

Stem 1-2 ft. high from tough root.
Pubescence of rather stiff hairs.
1-3 heads 2/3 inch across.
Leaves ovate-lanceolate, sessile on the stem, opposite, scabrous, 2-6 inches long, upper alternate, lower opposite.
Radical leaves on margined petioles ½ as long as leaves.
Involucre of 2 or more series of loose lanceolate bracts 3/4 inch long, villous with rather stiff hairs.
Rays about 8 yellow, an inch long, neutral.
Receptacle chaffy, each bract subtending a thin wing margined akene. Pappus a couple of long awl-shaped awns from the two angles of the akenes, and some short chaffy scales between. Disk corollas yellow.
Akenes serrate on edge & pubescent on sides.
Corolla tube glabrous, cylindrical with open 5-cleft limb. Anthers brown with yellow pollen
Style branches with ovate-pubescent appendages.
Near edge of woods & thickets.

No. 1139. June 11, 1899.
Calochortus elegans nanus Bot. of Calif. 2.

3-8 inches high, slender with one leaf; from narrowly linear to ½ inch broad and longer than stems. 1- several flowers, varying much in size; the petals on small plants not over ¼ inch long, or from that to 1 inch.
Pedicels erect in flowering.
Sepals lilac colored but not ciliate or fringed.
Petals longer, fringed.
Pit or gland quite large, surrounded by a dark fringed scale.
Capsule 3/5 inch long, ovate sharply winged angled.

Grassy hillsides south of canyon No. 2.
Wenatchee.

No. 1140. June 11, 1899.

Castilleja parviflora Bot. of Calif..

From stout perennial root, 1-2 ft. high, pubescent, glandular above.
Leaves 2 inches long, mostly 3-cleft, sessile.
Floral leaves and bracts and calyx scarlet.
Calyx cleft before and behind, and the sides also - but less cleft.
Corolla scarlet, galea as long as tube and much longer than short saccate lower lip exserted.
Style slender.
Stigma exserted from apex of galea.

Side of Mt. south of Canyon No. 2.

Parviflora is a misleading name, as the flowers are as large as in C. miniata and larger than C. pallida.

No. 1141. June 11, 1899.
Castilleia miniata Bot. of Calif.

From stout perennial root, and with much the habit and size of No. 1140, but more slender, nearly glabrous below, and less glandular.
Leaves mostly entire.
Flowers and bracts red
Bracts 3-cleft.
Lower lip of corolla less saccate.
Style & stigma considerably exserted.

Castilleia angustifolia whitelii, n. var.
Prof Piper. Feb. 22, 1900.

No. 1142. June 11, 1899.

Senecio canus Bot. of Calif..

6-12 inches high from rootstock, floccose pubescent.

Radical leaves ½-1 inch long, ovate, serrate on slender petioles 1-3 in. long.

Cauline leaves few-becoming narrower, more sharply serrate.

Inflorescence cyme-like, 4-10 heads.

Involucre ¼ inch high, of erect bracts, with few small bracts at base.

Rays about 8, bright yellow ¼ inch long.

Pappus copious, of fine white scabrous bristles.

Akenes glabrous.

Style branches, truncate, enlarged with tuft of hairs.

Side hill south of Gulch No. 2. Wenatchee.

No. 1143. June 11, 1899.
Erygophyllum caespitosum leucophyllum. Syn. Fl. U.S.

6-10 inches high from a suffruticose root,
branching, white, lanate.
Leaves nearly all entire.
Involucre of about 8 bracts, cup-shaped.
Rays about 8.
Pappus of four short scales.
Akenes 4-angled, pubescent.

Side hill south of Canyon No. 2. Wenatchee

No. 1144. June 11, 1899.
Erigeron poliospermus.

A span or more high, hirsute.
Radical leaves 1½ inch long, oblanceolate,
on margined petioles as long.
Stems several from a woody root, with
1-3 heads at top.
Cauline leaves 1½ inch long, narrow,
becoming smaller near top.
Involucre ¼ inch high of narrow appressed
bracts
Rays light blue, about 40 in number,
⅓ inch long.
Outer pappus present of fine bristles.

Hillside south of Canyon No. 2.

E. corymbosus Prof. Piper. July 9, 1899.

No. 1145. June 11, 1899.
Arenaria macrophylla Syn. Fl. N. A.

Slender, 4-8 inches high from creeping rootstock; stems somewhat angled.
Leaves opposite, 1/2-1 1/2 inch long, linear-lanceolate, clasping and united at base; becoming bracts on upper part of stem.
Sepals 5 separate, lanceolate 1/4 inch long.
Petals white, entire, a little longer than the sepals, no appendages.
Stamens 10 inserted just above the petals on a sort of disk at base of ovary.
Ovary oblong, with many seeds on a central placenta.
Seeds with an appendage at the hilum.
Styles 3.

Hillside south of Gulch No. 2. Wenatchee.

No. 1146. June 11, 1899.
Silene douglasii Syn. Fl. N. A.

One foot high, slender, growing in clusters from creeping rootstocks; pubescent, glandular above.
Stems erect, few-leaved.
Leaves linear-lanceolate, 1-2½ in long.
Small bracts beneath the inflorescence.
Calyx tube cylindrical, 10 nerved, ½-¾ in. lg.
Ovary oblong borne on stipe; its base surrounded by a sort of tube to which 10 stamens and 5 petals are attached.
Petals with appendages at base of blade and long claw auriculate, white or pinkish

Silene multicaulis Prof. Piper. July 9, 99.

Same plant.

No. 1147. June 11, 1899.

Agropyron violaceum. Coulter R. M. Bot.
Bull. No. 4. Agros. p. 30.

About 2 ft. high in dense clumps.
Stems smooth, leaves narrow, involute
when dry, 6-8 inches long, the upper portion
slightly scabrous. Spike 6 inches long,
slightly purplish or violet colored.
Spikelets flattish, 4-6 or more florets.
Glumes 2/3 as long as lower floret.
5-nerved, nearly equal and alike.
Lower palet 5-nerved, with an awn 1/2
to as long as itself. Upper palet a little
shorter, 2-nerved, truncate or barely retuse
at apex, nerves and margins ciliolate.
Stamens 3. Anthers purplish, deeply
notched at base. Stigmas sessile.
Ovary hairy at apex, entire.

Sidehill south of Gulch No. 2. Wenatchee.
More probably Agropyron divergens. Bull 4, p. 26.
A. strigosum or Triticum strigosum
Bot. of Calif.

No. 1148. June 1899.
Hosackia purshiana Bot. of Calif.

Sandy land along Columbia, near
Wenatchee

No. 1149. June 1899.
Eriogonum compositum Bot. of Calif.

In sand land along canyons and on
Wenatchee Flat.

No. 1150. June or July 1899.
Coreopsis tinctoria Syn. Fl. N. A.

Damp ground, common near Wenatchee.

Also July 30, 1899.

No. 1151. July 1899.
Grindelia squarrosa Syn. Fl. N. A.

Rocky bars of Columbia, near Wenatchee.

No. 1152. July 1899.

Cleome lutea Syn. Fl. N. A.

2-3 ft. high, flowers yellow.

Rocky bar of Columbia, at Wenatchee.

No. 1153. July 1899.
Artemisia dracunculoides Bot. of Col.

common near Wenatchee.

No. 1154. July 1899.
Euphorbia serpyllifolia Bot. of Cal.

Prostrate, matted, stems a foot long.

Common near Wenatchee.

No. 1155. July 1899.
Tetradymia canescens Bot. of Cal.

common on Wenatchee Flat.

No. 1156. July 1899.
Eriogonum virinenm Bot. of Calif.

Leaves all radical, annual, slender branching 6-12 inches high

In poor soil at Wenatchee.

No. 1157. July 1899.

Eriogonum dichotomum Bot. & Col.

Densely white tomentose, branching, a foot or so high.

No. 1158. July 1899.
Collomia aristella? Syn. Fl. N.A. Sup. p. 408.

Branching 18 inches high.
Flowers almost solitary in axils.

In Wenatchee Flat.

See No. 1026. Apr. 18, 1899.

No. 1159. July 1899.

Epilobium jucundum. Bot. of Calif.

Wenatchee Flat.

See No. 247, Aug. 6, 1896
E. paniculatum.

No. 1160. July 4, 1899.
Phacelia procera Bot. of Calif.

2-3 ft. high. Leaves incised.

Damp ground on Mt. at head of Gulch No. 1.

No. 1161. July 4, 1899.
Pentstemon menziesii Bot. of Cal.

Mt. at head of Gulch No. 1.

No. 1162. July 4, 1899.

Pentstemon confertus Bot. of Col.

18 inches high; flowers blue in apparent whorls.

Damp ground on Mt. at head of Gulch No. 1.

No. 1163. July 4, 1899.
Geum ~~triflorum~~ Bot. & Cal.

Fruiting specimens.

Mt. at head of Gulch Nat., Wenatchee.

No. 1164. July 4, 1899.
Sedum douglasii Coulter, R.M. Bot.
stonecrop.

Mt. at head of Gulch No. 1.

No. 1165. July 4, 1899.
Epilobium

6-8 inches high, apparently annual.
stems simple, slender.
Leaves opposite, ovate-lanceolate.
Flowers large, petals blue.

In grassy woods on Mt. at head of Gulch No. 1.

No. 1166. July 4, 1899.
Pentstemon aristatus Nuttall.
" whitedii Prof. Piper. Feb. 22, 1900.

See Nos. 1102, 131, 1068.

Fruiting specimens in Howse Lake Region.
Wenatchee.

No. 1167. July 4, 1899.
Eriogonum

Flowers yellow.

Mt. at head of Gulch No. 1,
Wenatchee.

No. 1168. July 4, 1899.
Silia aggregata

Wenatchee.

No. 1169. July 4, 1899.
Eriogonum

Mt. near Wenatchee.

No. 1170. July 4, 1899.
Madia sativa Bot. of Calif

Mt. at head of Gulch No. 1. Wenatchee.

No. 1171. July 4, 1899.
Microseris

In grassy meadow on Mt. at head of
Gulch No. 1. Wenatchee.

No. 1172. July 4, 1899.
Mentzelia laevicaulis Bot. of Calif.

Sandy hills near Wenatchee.

Also July 30, 1899.

No. 1173. July 4, 1899.
Smicus

Flowers cream colored.
Stems & leaves densely white tomentose.

Hills west of Wenatchee.

No. 1174. July 4, 1899.

Erisymum asperum Syn Fl. N. A.
(Erysimum)

1-2 ft. high in clumps from stout root.

Hills west of Wenatchee.

No. 1175. July 4, 1899.
Philadelphus lewisii Bot. of Calif.
Mock Orange.

Shrub with large white flowers along
canyons. common.

No. 1176. July 4, 1899.

Spiraea discolor — Bot. of Calif.

Along stream in canyon.

Shrub 3-6 ft. high.

No. 1177. July 30, 1899.
Aconitum columbianum. Coult. R.M. Bot.
Monkshood.

Flowers blue

In Mts. along Stemilt Creek.

No. 1178. July 30, 1899.
Lilium columbianum Bot. & Col.

Fruiting specimens

Along Stemilt Creek, in mountains

No. 1179. July 30, 1899.
Castilleia miniata Bot. of Calif.

2 feet high in clusters; stems simple, slender.
Leaves entire lanceolate.

Swamp land beyond Orr's place in
Mountains.

No. 1180. July 30, 1899.
Senecio andinus Bot. of Col.

2-5 ft. high in damp ground; mt mountains near Orr's place.

No. 1181. July 30, 1899.

Senecio lugens Bot. of Calif.

Radical leaves numerous 3-5 inches long.
Cauline leaves small.
Stems 2 ft. high slender.
In mountains near Ore's.

No. 1182. July 30, 1899.
Aster

Damp land in mountains, near Ores.

No. 1183. July 30, 1899.
Veratrum californicum Bot. of Cal.

2-6 ft. high.
Leaves large, clasping at base.
Panicle 12-18 inches long.

Wet ground in foothills.

No. 1184. July 30, 1899.
Spiraea corymbosum Bot. of Calif.

Mountains above Orrs.

No. 1185. July 30, 1899.
Rubus nutkanus Bot. of Calif.
Salmon berry.

Flowers large, white.
Leaves a foot wide.

Along streams in foothills, and in
Mountains near Ovvs.

No. 1186. Aug. 6, 1899.
Epilobium spicatum Bot. of Calif.

2-4 ft. high.
Flowers large blue.

In damp land on Burch Mt.

No. 1187. Aug. 6, 1899.
Hieracium scouleri. Bot. of Calif.

2 feet high.
Leaves becoming small on upper part of stem.

Birch Mountain.

No. 1188. Aug. 6, 1899.

Umbellifer

on Burch Mt., near Wenatchee.

List of Plants from State of Washington
Kirk Whited

Probably Vol IV -

I have never seen the 60 numbers that come between 1188 + 1248.
If they are at the U.S. Herb. they must be copied into one of the small books -

No. 1248. July 8, 1900.
Sambucus glauca Nutt.

No. 1290. July 4, 1900.
Aster conspicuus Lindl.

Gulch No. 2.

No. 1292. July 4, 1900.

Crataegus

Gulch No. 2.

No. 1293. July 6, 1900.
Crataegus macrantha Sodd.

Bank of Columbia River.

No. 1294. July 8, 1900.
Aster conspicuus Lindl.

No. 1295. July 8, 1900.

Erigeron speciosus DC.

No. 1296. July 8, 1900.

Sophanthus urticifolius Benth.

No. 1297. July 8, 1900.

Silene scouleri Hook.

No. 1298. July 8, 1900.

Polygonum tenue Michx.

No. 1299. July 8, 1900.

Aquilegia formosa Fisch.

No. 1300. July 8, 1900.

Epilobium adenocaulon Hausk.

No. 1301. July 8, 1900.

Elymus canadensis L.

No. 1302. July 8, 1900.

Deschampsia elongata (Hook.) Munro.

No. 1304. July 15, 1900

Phacelia ramosissima Dougl.

Among rocks, along Columbia River.

No. 1305. July 15, 1900.

Rhus glabra L.

No. 1356. July 15, 1900.
Pentstemon richardsoni Dougl.

Along Columbia River.

No. 1307. July 22, 1900.

In damp thicket at Concomully.

No. 1308. July 22, 1900.

Supinus

concomully.

No. 1309. July 22, 1900.
Astragalus

Mountain near Concomully.

No. 1310. July 22, 1900.

Aconitum columbianum Nutt.

Concomully.

No. 1811. July 22, 1900.

Verbascum blattaria L.

Locomully.

No. 1312.
Potentilla

July 22, 1900.

Concomully.

No. 1313. July 22, 1900.

Gayophytum ramosissimum T. & G.

Concomitly.

No. 1314. July 22, 1900.

Eriogonum heracloides Nutt.

Concomully.

No. 1315. July 22, 1900.

Cricus occidentalis Gray.

Concomully.

No. 1316. July 22, 1900.

Polygonum amphibium L.

Lake Iconconully.

No. 1318. July 22, 1900.

Erigeron

Border of Concomully Lake.

No. 1319. July 22, 1900.
Aster

In timber near Concomully.

No. 1320. July 22, 1900.

Arenaria congesta Nutt.

On dry ground at Concomully.

No. 1321. July 22, 1900.

Prosartes oregana Wats.

Concondilly.

No. 1322. July 22, 1900.

Hieracium albiflorum Hook.

Concomully.

No. 1323. July 22, 1900.

Ribes viscosissimum Pursh.

Concomully.

No. 1324. July 22, 1900.

Arctostaphylos uva-ursi (L.) Sprang.

Mount near Concomully.

No. 1327. Sept. 16, 1900.

Bigelovia graveolens albicaulis Gray.

Wenatchee Flat.

No. 1328. Sept. 16, 1900.

Bigelovia douglasii tortifolia Gray.

Wenatchee Flat.

No. 1329. Sept. 18, 1900.

Nicotiana attenuata Torr.

In waste places.

No. 1330. Sept. 19, 1900.

Epilobium paniculatum Nutt.

Wenatchee Flat.

No. 1331. Sept. 19, 1900.

Aster canescens viscosus

Wenatchee Flat.

No. 1332. Sept. 19, 1900.
Artemisia tridentata Nutt.

No. 1333. Sept. 23, 1900.

Clematis ligusticifolius Nutt.

Gulch No. 1.

No. 1334. Sept. 23, 1900.

Rosa fendleri Crepin.

Gulch No. 1.

No. 1335. Sept. 23, 1900.

Pachystima myrsinites Raf.

Gulch No. 1.

No. 1336. Sept. 25, 1900.

Aster douglasii Lindl.

Along ditch at Philip Miller's.

No. 1337. Sept. 25, 1900.

Artemisia dracunculoides Pursh.

Along ditch at Philip Miller's.

No. 1338. Sept. 25, 1900.

Artemisia ludoviciana Nutt.

Along ditch, near Philip Miller's.

No. 1339. Sept. 30, 1900.

Artemisia trifida Nutt.

Wenatchee Flat.

No —

July 8, 1900.

Sphaeralcea acerifolia Nutt.

No — July 4, 1900.

Berberis repens Lindl.

Gulch No. 2.

4284 D